Metadata for
Ouray National Wildlife Refuge,
Vegetation Mapping Project Vegatation Coverage

Identification_Information:
  Citation:
    Citation_Information:
      Originator: Remotes Sensing and GIS Group, Denver, Colorado
      Publication_Date: Unpublished Material
      Title: Ouray National Wildlife Refuge Vegetation Mapping Project Vegetation Coverage
      Geospatial_Data_Presentation_Form: map
      Online_Linkage: <http://biology.usgs.gov/npsveg/oura/index.html#geospatial_veg_info>
  Description:
    Abstract: This metadata is for the vegetation land-cover and land-use spatial database created at/for Ouray National Wildlife Refuge, Utah.
    Purpose: To help meet the management needs of the Refuge.
  Time_Period_of_Content:
    Time_Period_Information:
      Single_Date/Time:
        Calendar_Date: 20000705
    Currentness_Reference: ground condition
  Status:
    Progress: Complete
    Maintenance_and_Update_Frequency: None planned
  Spatial_Domain:
    Description_of_Geographic_Extent: Ouray National Wildlife Refuge and environs
    Bounding_Coordinates:
      West_Bounding_Coordinate: -109.6785
      East_Bounding_Coordinate: -109.56379
      North_Bounding_Coordinate: 40.20372
      South_Bounding_Coordinate: 40.09382
  Keywords:
    Theme:
      Theme_Keyword_Thesaurus: None
      Theme_Keyword: Land Cover
      Theme_Keyword: Land Use
      Theme_Keyword: Vegetation
      Theme_Keyword: Fish and Wildlife Service
      Theme_Keyword: National Wildlife Refuge
    Place:
      Place_Keyword_Thesaurus: None
      Place_Keyword: Utah
      Place_Keyword: Ouray
      Place_Keyword: Green River
      Place_Keyword: Unita Basin
  Taxonomy:
    Keywords/Taxon:
      Taxonomic_Keyword_Thesaurus: none
      Taxonomic_Keywords: plant communities
    Taxonomic_Classification:
      Taxon_Rank_Name: Kingdom
      Taxon_Rank_Value: Plantae
  Access_Constraints: None
  Use_Constraints: Acknowledgment of the USBR/RSGIG would be appreciated in products derived from these data. Any

person using the information presented here should fully understand the data collection and compilation process before beginning their analysis/use. The burden of determining fitness for use lies with the user.

Point_of_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: Region 6, Fish and Wildlife Service
Contact_Address:
Address_Type: mailing and physical address
Address: Refuges Division, 134 Union Blvd
City: Lakewood
State_or_Province: CO
Postal_Code: 80228
Contact_Voice_Telephone: (303) 236-8145
Browse_Graphic:
Browse_Graphic_File_Name: http://biology.usgs.gov/npsveg/oura/images/ouraveg.jpg
Browse_Graphic_File_Description: 329 Kbyte graphic in map composition layout
Browse_Graphic_File_Type: JPG
Data_Set_Credit: USBR, Denver, CO: Jim Von Loh, Daniel Cogan, Janet Coles, Jack Butler, Doug Crawford, Trudy Meyer, Jean Pennel, USFWS, ONWR: Manuel DeLeon; ABI, Boulder, CO: Marion Reed.
Native_Data_Set_Environment: HP-UNIX ArcInfo

Data_Quality_Information:
Logical_Consistency_Report: All polygon features are checked for topology and existence of attributed label points. Coverage checked for un-intentional dangling arcs.
Completeness_Report: All data with a minimum mapping unit of 1/2 hectare that can be interpreted from the aerial photographs are entered into the digital database. This includes features defined by the NVCS and the Anderson Level II Land Use classification. Some classes under the MMU are included due to its ease of interpretation and due to speciality of the class. Road and utility corridors and streams/canals wider that 10 meters were digitized as polygons.
Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Originator: Horizons, Inc
Publication_Date: 20000705
Title: Horizons Orthophoto
Geospatial_Data_Presentation_Form: remote-sensing image
Publication_Information:
Publication_Place: South Dakota
Publisher: Horizons, Inc
Other_Citation_Details: Orthophoto basemap
Source_Scale_Denominator: 12000
Type_of_Source_Media: CD-ROM
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 20000705
Source_Currentness_Reference: ground condition
Source_Citation_Abbreviation: Digital Orthophoto
Source_Contribution: Created orthophoto for the project under contract to the USBR
Source_Information:
Source_Citation:
Citation_Information:
Originator: Horizons, Inc
Publication_Date: 20000705
Title: Horizons Air Photos
Geospatial_Data_Presentation_Form: remote-sensing image

Publication_Information:
Publication_Place: South Dakota
Publisher: Horizons, Inc
Other_Citation_Details: Aerial photography
Source_Scale_Denominator: 12000
Type_of_Source_Media: filmstrip
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: Unknown
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: Aerial Photography
Source_Contribution: Flew and produced aerial photography for the project under contract to the USBR.
Process_Step:
Process_Description: MAP CLASSES: Vegetation classification was in accordance with the standards developed under the USGS/NPS Vegetation Mapping Program using the National Vegetation Classification Standard. Field work (collecting plot data) aided in the developement of the vegetation classes. Also, the Refuge had specific types that they wanted mapped. PHOTO INTERPRETATION: All map classes were interpreted from 1:12,000 scale, color infra-red photography. Photo-interpretation used the standard identification features such as tone, texture, color, pattern, topographic position, and shadow. In addition, field sample locations and their vegetation descriptions aided in assigning map class to each polygon. Photographs were examined using a stereoscope as needed. Linework was created on mylars placed over the photos. GIS PROCEDURES: The linework on the mylar overlays were transferred into the GIS database by one of two methods, either heads-up digitizing or scanning. METHOD I: Heads-up digitizing is a procedure whereby the operator digitizes by hand and eye on a computer terminal screen showing a digital image of an ortho-rectified photo. By looking at similar features on both the aerial photograph from which the classification was made and on the orthophoto, the line drawn on the aerial photo overlay is transferred to the digital image, which is registered to coordinates on the earth. This technique should produce good results except where there is little feature contrast on the orthophoto, in which case the operator must estimate the shape and location of the line work. METHOD II: Photos that cover an area with little topography or are too difficult to accurately transfer via heads-up will be scanned, ie, the mylar overlays will be scanned, not the actual photos. Before the mylar is scanned, it will be marked with control points that correspond to visible points on the orthophoto. The GIS software was used to convert the scanned mylar into a geo-referenced coverage which was then attributed and combined with the larger vegetation coverage associated with the area. The entire transfer and editing sequence was automated via in-house Arc/INFO AML programs. OTHER DATA: Quadrangle and orthophoto border coverages (bndryquad, bndryortho) were created to aid in the creation of the vegetation coverage. The mapping project border coverage (bndryproj) was acquired from the Refuge. A flightline coverage (bndryfline) was made by digitizing arcs with a DRG on screen and following lines as they appeared on the flightline index map. Field Observation, Plot, and Accuracy Assessment data point coverages (data_obsv, data_plot, and data_aa) were created by entering points with the 'generate' command using a text file of points and x-y coordinates. Refer to the metadata file for specifics on the data coverages.
Process_Date: 2001
Process_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: Remote Sensing and GIS Group
Contact_Address:
Address_Type: mailing address
Address: USBR, Code D-8260, POB 25007
City: Denver
State_or_Province: Colorado
Postal_Code: 80225
Country: USA
Contact_Voice_Telephone: 303-445-2266

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:

SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: G-polygon
Point_and_Vector_Object_Count: 5445

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Planar:
Grid_Coordinate_System:
Grid_Coordinate_System_Name: Universal Transverse Mercator
Universal_Transverse_Mercator:
UTM_Zone_Number: 12
Transverse_Mercator:
Scale_Factor_at_Central_Meridian: 0.9996
Longitude_of_Central_Meridian: -111
Latitude_of_Projection_Origin: 0
False_Easting: 500000
False_Northing: 0
Planar_Coordinate_Information:
Planar_Coordinate_Encoding_Method: Coordinate Pair
Coordinate_Representation:
Abscissa_Resolution: 1
Ordinate_Resolution: 1
Planar_Distance_Units: meters
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Clarke 1866
Semi-major_Axis: 6378206
Denominator_of_Flattening_Ratio: 294.9786982

Entity_and_Attribute_Information:
Overview_Description:
Entity_and_Attribute_Overview: Arcs in the coverage are attributed based on type of arc or how it was entered into the database and polygons are attributed based on vegetation type.
Entity_and_Attribute_Detail_Citation: None.
Detailed_Description:
Entity_Type:
Entity_Type_Label: Vegetation Polygons and Arcs
Entity_Type_Definition: A two-dimensional feature representing an area.
Entity_Type_Definition_Source: ESRI Glossary definitions.
Attribute:
Attribute_Label: ALL_CNAME
Attribute_Definition: Polygon attribute - NVCS Alliance Common Name
Attribute_Definition_Source: National Vegetation Classification Standard
Attribute_Domain_Values:
Unrepresentable_Domain: textual of NVCS common Alliance name
Attribute:
Attribute_Label: ALL_KEY
Attribute_Definition: Polygon attribute - NVCS Alliance Key number
Attribute_Definition_Source: National Vegetation Classification Standard
Attribute_Domain_Values:
Unrepresentable_Domain: textual of NVCS common Alliance name
Attribute:
Attribute_Label: ALL_NAME
Attribute_Definition: Polygon attribute - NVCS Alliance Name
Attribute_Definition_Source: National Vegetation Classification Standard
Attribute_Domain_Values:

Unrepresentable_Domain: textual of NVCS common Alliance name
Attribute:
Attribute_Label: AREA
Attribute_Definition: Internal ArcInfo item
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Positive real numbers that are automatically generated.
Attribute:
Attribute_Label: ASSN_CEGL
Attribute_Definition: Polygon attribute - NVCS Association CEGL code
Attribute_Definition_Source: National Vegetation Classification Standard
Attribute_Domain_Values:
Unrepresentable_Domain: numerical of Elcode link to NVCS Association
Attribute:
Attribute_Label: ASSN_CNAME
Attribute_Definition: Polygon attribute - NVCS Association Common Name
Attribute_Definition_Source: National Vegetation Classification Standard
Attribute_Domain_Values:
Unrepresentable_Domain: textual of synonym global community name (NVCS Association)
Attribute:
Attribute_Label: ASSN_NAME
Attribute_Definition: Polygon attribute - NVCS Association Name
Attribute_Definition_Source: National Vegetation Classification Standard
Attribute_Domain_Values:
Unrepresentable_Domain: textual of scientific global community name (NVCS Association)
Attribute:
Attribute_Label: CLASS
Attribute_Definition: Polygon attribute - NVCS Class
Attribute_Definition_Source: National Vegetation Classification Standard
Attribute_Domain_Values:
Unrepresentable_Domain: textual of class code & name
Attribute:
Attribute_Label: DIGTYPE
Attribute_Definition: Arc attribute describing the arc as follows:
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 1
Enumerated_Domain_Value_Definition: Originated from on-screen (heads-up) digitizing
Enumerated_Domain_Value_Definition_Source: Sequential unique whole numbers that are automatically generated.
Enumerated_Domain:
Enumerated_Domain_Value: 2
Enumerated_Domain_Value_Definition: Arc originated from scan of interpreted photo overlay (Mylar)
Enumerated_Domain_Value_Definition_Source: Sequential unique whole numbers that are automatically generated.
Enumerated_Domain:
Enumerated_Domain_Value: 5
Enumerated_Domain_Value_Definition: Arcs associated with GIS mapping border (Refuge border)
Enumerated_Domain_Value_Definition_Source: Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: FNODE_
Attribute_Definition: Internal ArcInfo item
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: FORMATION

Attribute_Definition: Polygon attribute - NVCS Formation description
Attribute_Definition_Source: USNVC Formation
Attribute_Domain_Values:
Unrepresentable_Domain: textual formation name & code
Attribute:
Attribute_Label: GROUP
Attribute_Definition: Polygon attribute - NVCS Group
Attribute_Definition_Source: USNVC Formation Group
Attribute_Domain_Values:
Unrepresentable_Domain: textual group name & code
Attribute:
Attribute_Label: IFWSNO
Attribute_Definition: Polygon attribute - code assigned by the FWS
Attribute_Definition_Source: Fish & Wildlife Service
Attribute_Domain_Values:
Unrepresentable_Domain: textual polygon attribute code
Attribute:
Attribute_Label: LENGTH
Attribute_Definition: Internal ArcInfo item
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Whole numbers
Attribute:
Attribute_Label: LPOLY_
Attribute_Definition: Internal ArcInfo item
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: LUC_II
Attribute_Definition: Anderson Level II Land Use Code
Attribute_Definition_Source: USGS Land Use and Land Cover Classification System
Attribute_Domain_Values:
Unrepresentable_Domain: numerical levels, code & name
Attribute:
Attribute_Label: MAP_CODE
Attribute_Definition: Vegetation classification code
Attribute_Definition_Source: LaCreek National Wildlife Refuge
Attribute_Domain_Values:
Unrepresentable_Domain: numerical class code
Attribute:
Attribute_Label: MOD
Attribute_Definition: Modifier
Attribute_Definition_Source: LaCreek NWR
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: R
Enumerated_Domain_Value_Definition: Polygon contains and additional Refuge (FWS) classification name
Enumerated_Domain_Value_Definition_Source: textual character of vegetation classification modifiers
Attribute:
Attribute_Label: NVCS_CODE
Attribute_Definition: Polygon attribute - NVCS Code
Attribute_Definition_Source: USNVC Code
Attribute_Domain_Values:
Unrepresentable_Domain: numerical formation level
Attribute:

Attribute_Label: OURAY_VEG_
Attribute_Definition: Internal ArcInfo item
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Whole numbers
Attribute:
Attribute_Label: OURAY_VEG_ID
Attribute_Definition: Internal ArcInfo item
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: PDOG
Attribute_Definition: Polygon attribute that Indicates presence (1) of prairie dogs.
Attribute_Definition_Source: LaCreek NWR
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 0
Enumerated_Domain_Value_Definition: Default - no use
Enumerated_Domain_Value_Definition_Source: Ouray National Wildlife Refuge
Enumerated_Domain:
Enumerated_Domain_Value: 1
Enumerated_Domain_Value_Definition: Yes
Enumerated_Domain_Value_Definition_Source: Ouray National Wildlife Refuge
Attribute:
Attribute_Label: PERIMETER
Attribute_Definition: Internal ArcInfo item
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Positive real numbers that are automatically generated.
Attribute:
Attribute_Label: PHOTO
Attribute_Definition: Polygon attribute that indicates aerial photo from which the polygon was interpreted.
Attribute_Definition_Source: Horizon, Inc
Attribute_Domain_Values:
Unrepresentable_Domain: numerical aerial photo number (whole numbers)
Attribute:
Attribute_Label: RPOLY_
Attribute_Definition: Internal ArcInfo item
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: SUBCLASS
Attribute_Definition: Polygon attribute - NVCS Subclass
Attribute_Definition_Source: USNVC
Attribute_Domain_Values:
Unrepresentable_Domain: textual subclass code & name
Attribute:
Attribute_Label: SUBGROUP
Attribute_Definition: Polygon attribute - NVCS subgroup
Attribute_Definition_Source: USNVC
Attribute_Domain_Values:
Unrepresentable_Domain: textual group code & name
Attribute:
Attribute_Label: TNODE_

Attribute_Definition: Internal ArcInfo item
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: VEG_CODE
Attribute_Definition: Polygon attribute for vegetation code number
Attribute_Definition_Source: LaCreek National Wildlife Refuge
Attribute_Domain_Values:
Unrepresentable_Domain: numerical class code
Attribute:
Attribute_Label: VEG_NAME
Attribute_Definition: Polygon attribute for vegetation name
Attribute_Definition_Source: LaCreek National Wildlife Refuge
Attribute_Domain_Values:
Unrepresentable_Domain: textual class name

Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Organization: U.S. Geological Survey, Center for Biological Informatics
Contact_Address:
Address_Type: mailing and physical address
Address:
U.S. Geological Survey, Center for Biological
Informatics, MS 302, Room 8000, Building 810,
Denver Federal Center
City: Denver
State_or_Province: Colorado
Postal_Code: 80225
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: 303-202-4229
Contact_Facsimile_Telephone: 303-202-4219 (org)
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Resource_Description: None at this time
Distribution_Liability:
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Standard_Order_Process:
Digital_Form:
Digital_Transfer_Information:

Format_Name: HTML
Digital_Transfer_Option:
Online_Option:
Computer_Contact_Information:
Network_Address:
Network_Resource_Name: http://biology.usgs.gov/npsveg/oura/index.html#geospatial_veg_info
Fees: None

Metadata_Reference_Information:
Metadata_Date: 20020125
Metadata_Review_Date: 20060905
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: USGS-NPS Vegetation Mapping Program Coordinator
Contact_Address:
Address_Type: mailing and physical address
Address:
U.S. Geological Survey, Center for Biological Informatics, MS 302,
Room 8000, Building 810, Denver Federal Center
City: Denver
State_or_Province: Colorado
Postal_Code: 80225
Country: USA
Contact_Voice_Telephone: (303) 202-4220
Contact_Facsimile_Telephone: (303) 202-4219
Contact_Electronic_Mail_Address: gs-b-npsveg@usgs.gov
Metadata_Standard_Name: FGDC-STD-001.1-1999 Content Standard for Digital Geospatial Metadata, 1998 Part 1: Biological Data Profile, 1999
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Extensions:
Online_Linkage: http://biology.usgs.gov/fgdc.bio/bionwext.txt
Profile_Name: Biological Data Profile FGDC-STD-001.1-1999